

IIDA et al.  
Appl. No. 10/633,540  
May 15, 2007

**AMENDMENTS TO THE DRAWINGS**

The attached sheet of drawings includes changes to Fig. 21. This sheet, which includes Fig. 21, replaces the original sheet including Fig. 21. In Figure 21, previous label "sdloxsl" of line (i) has been replaced with label "sdloxsh."

Attachment: Replacement Sheet(s)  
Annotated Sheet Showing Changes

**REMARKS/ARGUMENTS**

Reconsideration and allowance of this application are respectfully requested. Currently, claims 1-27 are pending in this application.

**Objections to the Drawings:**

Fig. 21 has been amended in accordance with the Examiner's helpful suggestions. Applicant thus requests that the objections to the drawings be withdrawn.

**Rejections Under 35 U.S.C. §102 and 103**

Claims 1-9 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Yasui et al (U.S. Patent No. 6,935,155, hereinafter "Yasui") in view of Hasegawa et al (U.S. Patent No. 6,258,232, hereinafter "Hasegawa"). Applicant traverses this rejection.

Yasui was filed in the U.S. Patent Office on May 14, 2003. Accordingly, Yasui is only effective as "prior art" as of its May 14, 2003 filing date. The present application is entitled to priority rights based on JP Application No. 2002-228273 which was filed on August 6, 2002 (i.e., before the May 14, 2003 filing date of Yasui). The Office Action acknowledged receipt of the priority document. Attached is a verified English translation of the priority document.

Accordingly, it is believed that Applicant has perfected its foreign priority claim under 35 U.S.C. §119 and that Yasui is therefore not "prior art" with respect to the present application. It is therefore not believed necessary at this time to discuss the technological deficiencies of this document and hence the combination of this document with Hasegawa. Applicant therefore respectfully requests that the above rejection of claims 1-9 be withdrawn.

Claims 1 and 8 were rejected under 35 U.S.C. §102 as allegedly being anticipated by JP 7-198,672 (hereinafter “JP ‘672” – machine English translation attached). Applicant respectfully traverses these rejections.

Anticipation under Section 102 of the Patent Act requires that a prior art reference disclose every claim element of the claimed invention. See, e.g., *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1574 (Fed. Cir. 1986). JP ‘672 fails to disclose every claim element of the claimed invention. For example, JP ‘672 fails to disclose or even suggest “temperature adjusting means for adjusting a temperature of the solid electrolyte element in the air-fuel ratio sensor to at least two different predetermined temperatures, which cause a change in an output of the air-fuel ratio sensor to be larger in a normal state than in a deteriorated state,” as required by claim 1 and its dependents.

Independent claim 1 thus relates to a solid electrolyte element temperature which is adjusted to cause a *larger* change in an air-fuel ratio sensor output in a normal state (i.e., non-deteriorated state) than in a deteriorated state. A *smaller* output change from the air-fuel ratio sensor is therefore indicative of a deteriorated sensor state. These features are supported by, for example, page 4, line 23 to page 5, line 13 of the specification.

In JP ‘672 (see machine English translation attached and English abstract previously submitted), a temperature of an oxygen sensor is adjusted to a diagnostic operation temperature, which is higher than a normal operation temperature. Deterioration of the sensor is determined when a difference in sensor output values (Y and X) at the two temperatures (diagnostic operation temperature and normal operation temperature) becomes larger than a predetermined threshold. (See, e.g., steps (b)-(d) in the English abstract of JP ‘672). In JP ‘672, a sensor temperature is adjusted to the temperature, which causes a *larger* output change as an indication

of sensor deterioration. This is opposite to the invention required by claim 1, in which the sensor temperature is adjusted to a temperature, which causes a *smaller* output change from the air-fuel ratio sensor as an indication of a deteriorated sensor state (as noted above). JP ‘672 thus fails to anticipate claim 1 and its dependents.

Claims 1-8 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Hasegawa in view of JP ‘672. Applicant traverses this rejection.

Section 13 of the Office Action admits that Hasegawa fails to disclose “*temperature adjusting means to adjust between two predetermined temperatures* and the presence of a deterioration detection means based on the sensor output from the two different temperatures (emphasis added).” Hasegawa thus fails to disclose “adjusting a temperature of the solid electrolyte element in the air-fuel ratio sensor to at least two different predetermined temperatures, which cause a change in an output of the air-fuel ratio sensor to be larger in a normal state than in a deteriorated state.” As discussed above, JP ‘672 also fails to disclose this feature. Accordingly, even if Hasegawa and JP ‘672 were combined as proposed by the Office Action, the combination would not have taught or suggested all of the claim limitations. Applicant thus requests that the rejection in view of Hasegawa and JP ‘672 be withdrawn.

### New claims

New claims 11-27 have been added. Independent claim 11 requires, *inter alia*, “adjusting a temperature of the solid electrolyte element in the air-fuel ratio sensor from a present temperature to at least two different predetermined temperatures, which are set for detecting deterioration of the air-fuel ratio sensor.” Similar comments apply to independent method claim 22. Independent claim 15 requires, *inter alia*, “detecting a deterioration of the air-fuel ratio sensor based on change speeds of outputs of the air-fuel ratio sensor produced when the

temperature of the solid electrolyte element is adjusted to the two different temperatures....”

Similar comments apply to independent method claim 25. Independent claim 19 requires, *inter alia*, “adjusting a temperature of the solid electrolyte element in the air-fuel ratio sensor to at least two different predetermined temperatures, which cause a change in an output of the air-fuel ratio sensor to be larger in a normal state than in a deteriorated state.” New claims 11-27 are therefore believed to be allowable.

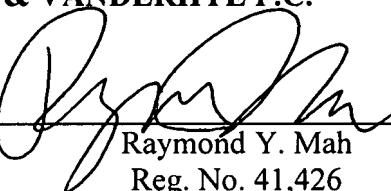
**Conclusion:**

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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**FIG. 21**

